Claims

1. DNA comprising a base sequence shown in nucleotide Nos. 1 to 34203 of SEQ ID No. 1 of the Sequence Listing, and improving the ML-236B production ability of ML-236B producing microorganism by being introduced therein.

2. DNA of Claim 1, which is available from a transformed *E. coli* pML48 SANK71199 strain (FERM BP-6780).

3. DNA which hybridizes with the DNA of Claim 1 or 2, and improves the ML-236B production ability of ML-236B producing microorganism by being introduced therein.

4. DNA which hybridizes with the DNA of Claim 1 or 2 under stringent conditions, and improving the ML-236B production ability of ML-236B producing microorganism by being introduced therein.

5. A recombinant DNA vector comprising the DNA of any one of Claims 1 to 4.

6. A recombinant DNA vector of Claim 5, which is carried by transformed *E. coli* pML48 SANK 71199 strain (FERM BP-6780),

7. A host cell transformed by the recombinant DNA vector of Claim 5 or 6.

8. A host cell of Claim 7, which is an ML-236B producing microorganism.

9. A host cell of Claim 8, which is *Penicillum citrinum*.

10. A process for preparing ML-236B, which comprises culturing the host cell of Claim 8 or 9 and then, recovering the ML-236B from the culture.

11. A host cell of Claim 7, which is *Escherichia coli*.

12. A host cell of Claim 11, which is a transformed *E. coli* pML48 SANK71199 (FERM BP-6780).

13. A PCR primer A1 comprising a sequence having at least 10 bases, with adenine of nucleotide No. 23045 in SEQ ID No. 2 of the Sequence Listing or a base on the 5'-side thereof as a 5'-end.

14. A PCR primer A2 comprising a sequence having at least 70% homology with the base sequence of the PCR primer A1 of Claim 13 and having at least 10 bases (with the proviso

that the PCR primer A2 is usable for PCR for amplifying cDNA encoding a polypeptide having, as an N terminal, a methionine residue encoded by nucleotide Nos. 23045 to 23047 in SEQ ID No. 2 of the Sequence Listing).

15. A PCR primer A3 comprising a sequence having at least 80% homology with the base sequence of the PCR primer A1 of Claim 13 and having at least 10 bases (with the proviso that the PCR primer A3 is usable for PCR for amplifying cDNA encoding a polypeptide having, as an N terminal, a methionine residue encoded by nucleotide Nos. 23045 to 23047 in SEQ ID No. 2 of the Sequence Listing).

16. A PCR primer A4 comprising a sequence having at least 90% homology with the base sequence of the PCR primer A1 of Claim 13 and having at least 10 bases (with the proviso that the PCR primer A4 is usable for PCR for amplifying cDNA encoding a polypeptide having, as an N terminal, a methionine residue encoded by nucleotide Nos. 23045 to 23047 in SEQ ID No. 2 of the Sequence Listing).

17. A PCR primer B1 comprising a sequence having at least 10 bases, with cytosine of nucleotide No. 1479 in SEQ ID No. 1 of the Sequence Listing or a base on the 5'-side thereof as a 5'-end.

18. A PCR primer B2 comprising a sequence having at least 70% homology with the base sequence of the PCR primer B1 of Claim 17 and having at least 10 bases (with the proviso that the PCR primer B2 is usable for PCR for amplifying cDNA encoding a polypeptide having, as a C terminal, an alanine residue encoded by nucleotide Nos. 32720 to 32722 in SEQ ID No. 2 of the Sequence Listing).

19. A PCR primer B3 comprising a sequence having at least 80% homology with the base sequence of the PCR primer B1 of Claim 17 and having at least 10 bases (with the proviso that the PCR primer B3 is usable for PCR for amplifying cDNA encoding a polypeptide having, as a C terminal, an alanine residue encoded by nucleotide Nos. 32720 to 32722 in SEQ ID No. 2 of the Sequence Listing).

20. A PCR primer B4 comprising a sequence having at

least 90% homology with the base sequence of the PCR primer B1 of Claim 17 and having at least 10 bases (with the proviso that the PCR primer B4 is usable for PCR for amplifying cDNA encoding a polypeptide having, as a C terminal, an alanine residue encoded by nucleotide Nos. 32720 to 32722 in SEQ ID No. 2 of the Sequence Listing).

21. A PCR primer C1 comprising a sequence having at least 10 bases, with adenine of nucleotide No. 11748 in SEQ ID No. 2 of the Sequence Listing or a base on the 5'-side thereof as a 5'-end.

22. A PCR primer C2 comprising a sequence having at least 70% homology with the base sequence of the PCR primer C1 of Claim 21 and having at least 10 bases (with the proviso that the PCR primer C2 is usable for PCR for amplifying cDNA encoding a polypeptide having, as an N terminal, a methionine residue encoded by nucleotide Nos. 11748 to 11750 in SEQ ID No. 2 of the Sequence Listing).

23. A PCR primer C3 comprising a sequence having at least 80% homology with the base sequence of the PCR primer C1 of Claim 21 and having at least 10 bases (with the proviso that the PCR primer C3 is usable for PCR for amplifying cDNA encoding a polypeptide having, as an N terminal, a methionine residue encoded by nucleotide Nos. 11748 to 11750 in SEQ ID No. 2 of the Sequence Listing).

24. A PCR primer C4 comprising a sequence having at least 90% homology with the base sequence of the PCR primer C1 of Claim 21 and having at least 10 bases (with the proviso that the PCR primer C4 is usable for PCR for amplifying cDNA encoding a polypeptide having, as an N terminal, a methionine residue encoded by nucleotide Nos. 11748 to 11750 in SEQ ID No. 2 of the Sequence Listing).

25. A PCR primer D1 comprising a sequence having at least 10 bases, with thymine of nucleotide No. 14362 in SEQ ID No. 1 of the Sequence Listing or a base on the 5'-side thereof as a 5'-end.

26. A PCR primer D2 comprising a sequence having at least 70% homology with the base sequence of the PCR primer D1

of Claim 25 and having at least 10 bases (with the proviso that the PCR primer D2 is usable for PCR for amplifying cDNA encoding a polypeptide having, as a C terminal, a serine residue encoded by nucleotide Nos. 19837 to 19839 in SEQ ID No. 2 of the Sequence Listing).

27. A PCR primer D3 comprising a sequence having at least 80% homology with the base sequence of the PCR primer D1 of Claim 25 and having at least 10 bases (with the proviso that the PCR primer D3 is usable for PCR for amplifying cDNA encoding a polypeptide having, as a C terminal, a serine residue encoded by nucleotide Nos. 19837 to 19839 in SEQ ID No. 2 of the Sequence Listing).

28. A PCR primer D4 comprising a sequence having at least 90% homology with the base sequence of the PCR primer D1 of Claim 25 and having at least 10 bases (with the proviso that the PCR primer D4 is usable for PCR for amplifying cDNA encoding a polypeptide having, as a C terminal, a serine residue encoded by nucleotide Nos. 19837 to 19839 in SEQ ID No. 2 of the Sequence Listing).

29. A PCR primer E1 comprising a sequence having at least 10 bases, with adenine of nucleotide No. 11796 in SEQ ID No. 1 of the Sequence Listing or a base on the 5'-side thereof as a 5'-end.

30. A PCR primer E2 comprising a sequence having at least 70% homology with the base sequence of the PCR primer E1 of Claim 29 and having at least 10 bases (with the proviso that the PCR primer E2 is usable for PCR for amplifying cDNA encoding a polypeptide having, as an N terminal, a methionine residue encoded by nucleotide Nos. 11796 to 11798 in SEQ ID No. 1 of the Sequence Listing).

31. A PCR primer E3 comprising a sequence having at least 80% homology with the base sequence of the PCR primer E1 of Claim 29 and having at least 10 bases (with the proviso that the PCR primer E3 is usable for PCR for amplifying cDNA encoding a polypeptide having, as an N terminal, a methionine residue encoded by nucleotide Nos. 11796 to 11798 of SEQ ID No. 1 of the Sequence Listing).

32. A PCR primer E4 comprising a sequence having at least 90% homology with the base sequence of the PCR primer E1 of Claim 29 and having at least 10 bases (with the proviso that the PCR primer E4 is usable for PCR for amplifying cDNA encoding a polypeptide having, as an N terminal, a methionine residue encoded by nucleotide Nos. 11796 to 11798 in SEQ ID No. 1 of the Sequence Listing).

33. A PCR primer F1 comprising a sequence having at least 10 bases, with thymine of nucleotide No. 20723 in SEQ ID No. 2 of the Sequence Listing or a base on the 5'-side thereof as a 5'-end.

34. A PCR primer F2 comprising a sequence having at least 70% homology with the base sequence of the PCR primer F1 of Claim 33 and having at least 10 bases (with the proviso that the PCR primer F2 is usable for PCR for amplifying cDNA encoding a polypeptide having, as a C terminal, a cysteine residue encoded by nucleotide Nos. 13476 to 13478 in SEQ ID No. 1 of the Sequence Listing).

35. A PCR primer F3 comprising a sequence having at least 80% homology with the base sequence of the PCR primer F1 of Claim 33 and having at least 10 bases (with the proviso that the PCR primer F3 is usable for PCR for amplifying cDNA encoding a polypeptide having, as a C terminal, a cysteine residue encoded by nucleotide Nos. 13476 to 13478 in SEQ ID No. 1 of the Sequence Listing).

36. A PCR primer F4 comprising a sequence having at least 90% homology with the base sequence of the PCR primer F1 of Claim 33 and having at least 10 bases (with the proviso that the PCR primer F4 is usable for PCR for amplifying cDNA encoding a polypeptide having, as a C terminal, a cysteine residue encoded by nucleotide Nos. 13476 to 13478 in SEQ ID No. 1 of the Sequence Listing).

37. A PCR primer G1 comprising a sequence having at least 10 bases, with adenine of nucleotide No. 24321 in SEQ ID No. 1 of the Sequence Listing or a base on the 5'-side thereof as a 5'-end. ✓

38. A PCR primer G2 comprising a sequence having at

least 70% homology with the base sequence of the PCR primer G1 of Claim 37 and having at least 10 bases (with the proviso that the PCR primer G2 is usable for PCR for amplifying cDNA encoding a polypeptide having, as an N terminal, a methionine residue encoded by nucleotide Nos. 24321 to 24323 in SEQ ID No. 1 of the Sequence Listing).

39. A PCR primer G3 comprising a sequence having at least 80% homology with the base sequence of the PCR primer G1 of Claim 37 and having at least 10 bases (with the proviso that the PCR primer G3 is usable for PCR for amplifying cDNA encoding a polypeptide having, as an N terminal, a methionine residue encoded by nucleotide Nos. 24321 to 24323 in SEQ ID No. 1 of the Sequence Listing).

40. A PCR primer G4 comprising a sequence having at least 90% homology with the base sequence of the PCR primer G1 of Claim 37 and having at least 10 bases (with the proviso that the PCR primer G4 is usable for PCR for amplifying cDNA encoding a polypeptide having, as an N terminal, a methionine residue encoded by nucleotide Nos. 24321 to 24323 in SEQ ID No. 1 of the Sequence Listing).

41. A PCR primer H1 comprising a sequence having at least 10 bases, with thymine of nucleotide No. 6312 in SEQ ID No. 2 of the Sequence Listing or a base on the 5'-side thereof as a 5'-end.

42. A PCR primer H2 comprising a sequence having at least 70% homology with the base sequence of the PCR primer H1 of Claim 41 and having at least 10 bases (with the proviso that the PCR primer H2 is usable for PCR for amplifying cDNA encoding a polypeptide having, as a C terminal, an arginine residue encoded by nucleotide Nos. 27887 to 27889 in SEQ ID No. 1 of the Sequence Listing).

43. A PCR primer H3 comprising a sequence having at least 80% homology with the base sequence of the PCR primer H1 of Claim 41 and having at least 10 bases (with the proviso that the PCR primer H3 is usable for PCR for amplifying cDNA encoding a polypeptide having, as a C terminal, an arginine residue encoded by nucleotide Nos. 27887 to 27889 in SEQ ID No.

1 of the Sequence Listing).

44. A PCR primer H4 comprising a sequence having at least 90% homology with the base sequence of the PCR primer H1 of Claim 41 and having at least 10 bases (with the proviso that the PCR primer H4 is usable for PCR for amplifying cDNA encoding a polypeptide having, as a C terminal, an arginine residue encoded by nucleotide Nos. 27887 to 27889 in SEQ ID No. 1 of the Sequence Listing).

45. A PCR primer I1 comprising a sequence having at least 10 bases, with adenine of nucleotide No. 3545 in SEQ ID No. 2 of the Sequence Listing or a base on the 5'-side thereof as a 5'-end.

46. A PCR primer I2 comprising a sequence having at least 70% homology with the base sequence of the PCR primer I1 of Claim 45 and having at least 10 bases (with the proviso that the PCR primer I2 is usable for PCR for amplifying cDNA encoding a polypeptide having, as an N terminal, a methionine residue encoded by nucleotide Nos. 3545 to 3547 in SEQ ID No. 2 of the Sequence Listing).

47. A PCR primer I3 comprising a sequence having at least 80% homology with the base sequence of the PCR primer I1 of Claim 45 and having at least 10 bases (with the proviso that the PCR primer I3 is usable for PCR for amplifying cDNA encoding a polypeptide having, as an N terminal, a methionine residue encoded by nucleotide Nos. 3545 to 3547 in SEQ ID No. 2 of the Sequence Listing).

48. A PCR primer I4 comprising a sequence having at least 90% homology with the base sequence of the PCR primer I1 of Claim 45 and having at least 10 bases (with the proviso that the PCR primer I4 is usable for PCR for amplifying cDNA encoding a polypeptide having, as an N terminal, a methionine residue encoded by nucleotide Nos. 3545 to 3547 in SEQ ID No. 2 of the Sequence Listing).

49. A PCR primer J1 comprising a sequence having at least 10 bases, with thymine of nucleotide No. 28472 in SEQ ID No. 1 of the Sequence Listing or a base on the 5'-side thereof as a 5'-end.

50. A PCR primer J2 comprising a sequence having at least 70% homology with the base sequence of the PCR primer J1 of Claim 49 and having at least 10 bases (with the proviso that the PCR primer J2 is usable for PCR for amplifying cDNA encoding a polypeptide having, as a C terminal, an alanine residue encoded by nucleotide Nos. 5727 to 5729 in SEQ ID No. 2 of the Sequence Listing).

51. A PCR primer J3 comprising a sequence having at least 80% homology with the base sequence of the PCR primer J1 of Claim 49 and having at least 10 bases (with the proviso that the PCR primer J3 is usable for PCR for amplifying cDNA encoding a polypeptide having, as a C terminal, an alanine residue encoded by nucleotide Nos. 5727 to 5729 in SEQ ID No. 2 of the Sequence Listing).

52. A PCR primer J4 comprising a sequence having at least 90% homology with the base sequence of the PCR primer J1 of Claim 49 and having at least 10 bases (with the proviso that the PCR primer J4 is usable for PCR for amplifying cDNA encoding a polypeptide having, as a C terminal, an alanine residue encoded by nucleotide Nos. 5727 to 5729 in SEQ ID No. 2 of the Sequence Listing).

53. A PCR primer K1 comprising a sequence having at least 10 bases, with adenine of nucleotide No. 400 in SEQ ID No. 2 of the Sequence Listing or a base on the 5'-side thereof as a 5'-end.

54. A PCR primer K2 comprising a sequence having at least 70% homology with the base sequence of the PCR primer K1 of Claim 53 and having at least 10 bases (with the proviso that the PCR primer K2 is usable for PCR for amplifying cDNA encoding a polypeptide having, as an N terminal, a methionine residue encoded by nucleotide Nos. 400 to 402 in SEQ ID No. 2 of the Sequence Listing).

55. A PCR primer K3 comprising a sequence having at least 80% homology with the base sequence of the PCR primer K1 of Claim 53 and having at least 10 bases (with the proviso that the PCR primer K3 is usable for PCR for amplifying cDNA encoding a polypeptide having, as an N terminal, a methionine

residue encoded by nucleotide Nos. 400 to 402 in SEQ ID No. 2 of the Sequence Listing).

56. A PCR primer K4 comprising a sequence having at least 90% homology with the base sequence of the PCR primer K1 of Claim 53 and having at least 10 bases (with the proviso that the PCR primer K4 is usable for PCR for amplifying cDNA encoding a polypeptide having, as an N terminal, a methionine residue encoded by nucleotide Nos. 400 to 402 in SEQ ID No. 2 of the Sequence Listing).

57. A PCR primer L1 comprising a sequence having at least 10 bases, with cytosine of nucleotide No. 32287 in SEQ ID No. 1 of the Sequence Listing or a base on the 5'-side thereof as a 5'-end.

58. A PCR primer L2 comprising a sequence having at least 70% homology with the base sequence of the PCR primer L1 of Claim 57 and having at least 10 bases (with the proviso that the PCR primer L2 is usable for PCR for amplifying cDNA encoding a polypeptide having, as a C terminal, an alanine residue encoded by nucleotide Nos. 1912 to 1914 in SEQ ID No. 2 of the Sequence Listing).

59. A PCR primer L3 comprising a sequence having at least 80% homology with the base sequence of the PCR primer L1 of Claim 57 and having at least 10 bases (with the proviso that the PCR primer L3 is usable for PCR for amplifying cDNA encoding a polypeptide having, as a C terminal, an alanine residue encoded by nucleotide Nos. 1912 to 1914 in SEQ ID No. 2 of the Sequence Listing).

60. A PCR primer L4 comprising a sequence having at least 90% homology with the base sequence of the PCR primer L1 of Claim 57 and having at least 10 bases (with the proviso that the PCR primer L4 is usable for PCR for amplifying cDNA encoding a polypeptide having, as a C terminal, an alanine residue encoded by nucleotide Nos. 1912 to 1914 in SEQ ID No. 2 of the Sequence Listing).